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ABSTRACT

Because sedentary living creates health consequences that ultimately affect employees' productivity, many companies are sponsoring worksite physical fitness programs for their employees. The cost-effectiveness of such programs and the resulting reduction in employees' absenteeism rates and medical and health care costs have been well documented. In addition, many states either already have or are in the process of passing legislation offering incentives for employer-sponsored physical fitness programs. Companies desiring to develop their own worksite physical fitness programs need to recognize the need for screening procedures to determine employees' coronary risk factors and exercise tolerance levels. Staff selection, adequate liability protection, and the need for program evaluation are other important issues to consider. Company-sponsored worksite physical fitness programs vary widely from the standpoint of available facilities, activities offered, target audience, participation rates, cost to employees, and incentives for participation. In the past, most worksite physical fitness programs concentrated almost exclusively on programs for top executives and on exercise and physical fitness; as the cost-effectiveness of keeping employees physically fit become better known, however, more companies are making their programs available to more of their employees and are combining exercise and with other self-help programs. (Thirty examples of companies offering worksite physical fitness programs are included in this document.) (MN)

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WBGH WORKSITE WELLNESS SERIES

PHYSICAL FITNESS PROGRAMS IN THE WORKPLACE

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PHYSICAL FITNESS PROGRAMS IN THE WORKPLACE

Research shows that a sedentary 35-year-old man has about the same physical fitness level as a 55-year-old man who is active. Therefore, businesses are establishing fitness programs to help their employees stay active and productive. Studies support the contention that worksite fitness endeavors are beneficial for the employees who participate and for the organizations sponsoring the programs.

SEDENTARY LIVING AND HEALTH

Few health professionals or laypersons doubt that a certain amount of regular exercise is a good health habit; even skeptics recommend some exercise. Surveys show that very high percentages of the public report positive attitudes about exercise and health. Although there is considerable consensus, there is still uncertainty about the specific benefits of an active lifestyle. In many instances, a benefit of exercise may be established, but we do not yet completely understand the specific way exercise is beneficial and exactly how much exercise is necessary for a given health benefit. This section summarizes the scientific evidence on sedentary living habits, health, and the economic consequences.

Health Consequences of Sedentary Living

The lack of regular exercise is associated with several adverse outcomes. It is well established that sedentary living habits lead to low levels of physical fitness. Low physical fitness, in turn, forces individuals into an inactive lifestyle.

- An individual--even one in good shape--can exercise at maximal exercise capacity for less than a minute.

- The average exercise level that a person can sustain over the entire day is about 20 percent of maximal exercise capacity. If an individual's average energy expenditure exceeds this 20 percent figure, chronic fatigue and exhaustion result.

To place these estimates in perspective, consider the following specific examples. Suppose that a middle-aged individual has a maximal physical fitness level that is nine times his or her resting energy expenditure. That is, if a person burns one calorie per minute at rest, he or she burns nine calories per minute during maximal or "all out" aerobic exercise. This physical fitness level is the average observed in sedentary men in their 50s and sedentary women in their 40s in a population of more than 30,000 individuals who have completed a maximal treadmill exercise test at the Cooper Clinic. This means that the typical individual can average a caloric expenditure of 1.8 times resting (9 x 20 percent) over the course of the day.

Consider a person who sleeps for eight hours, spends six hours at home in light activity (personal care, reading, playing cards, and preparing meals), two hours in light housework and shopping, and has a job requiring light to moderate activity (clerking in a clothing store, light assembly work, or office work requiring some walking). The average daily energy requirements for the above example is slightly greater than 1.9 times resting caloric expenditure. Yet, even this extremely sedentary lifestyle exceeds the average daily capacity of sedentary, middle-aged men and women.

Another way of viewing the deleterious impact of sedentary living on physical fitness is the observation that the sedentary, middle-aged adult has an exercise performance capacity of an active individual who is 20 years older. That is, a sedentary 35-

year-old man has about the same physical fitness level as a 55-year-old man who is active. Thus, the active 55-year-old can lead as vigorous a lifestyle as the sedentary 35-year-old.

The lack of physical fitness caused by sedentary habits leads to a much more restricted lifestyle and quality of life. The person with low capacity is not able to enjoy vigorous leisure time pursuits with family and friends, and is limited in the performance of occupational and household tasks as well. It is arguable whether or not a low level of physical fitness is intrinsically unhealthy, but low physical fitness is an important determinant of quality of life and is directly related to the capacity to enjoy a rich variety of activities. Surely, it is not far fetched to consider this an aspect of health.

Evidence has accumulated in recent years linking sedentary living and low physical fitness to disease rates. Some of the diseases associated with exercise and fitness include hypertension,[7,14,29] obesity,[8] cancer,[19,41] and coronary heart disease.[25,28] Paffenbarger et al show an association between sedentary lifestyle and total mortality.[30] Their data indicate approximately a two-year increase in longevity in men who expend at least 2000 kilocalories in leisure-time exercise a week compared to men who spend less than 500 kilocalories in leisure-time activities. Worksite exercise programs show an improvement in blood pressure, body weight, physical fitness, other coronary heart disease risk factors, and psychological health in employees who exercise.[9,10]

Economic Consequences of Sedentary Living

As discussed above, there is extensive evidence demonstrating health benefits for regular exercise. Much more data are needed, however, to confirm and describe the cost to society of lack of exercise. Following is a logical analysis of the economic impact of sedentary living.

Epidemiologists frequently calculate a figure called attributable risk. This figure estimates how much of a disease is caused by, or is due to a particular characteristic. For example, it is estimated that 80 to 90 percent of lung cancer cases can be attributed to the habit of cigarette smoking.

An extension of attributable risk calculations to estimating the community impact of a risk factor is also possible. The community attributable risk is based on a presumed causal association between the risk factor and the disease, the strength of magnitude of that association, and the prevalence of the risk factor in the population.

This latter point (prevalence in the community) is important. A good analogy can be taken from the area of traffic safety. Suppose it were learned that driving a Toyota or a Porche was a risk factor for traffic death. If we had a treatment that prevented automobile deaths, we would prevent many more deaths if the treatment were applied to Toyotas rather than to Porches. This is because of the much higher prevalence of Toyotas in the population. Likewise, if very few people in a population have a risk factor for a disease, elimination of the risk factor will have a minor impact on disease rates. If only one percent of the population smoked, eliminating smoking would not prevent very much lung cancer, even though smoking is a powerful risk factor for lung cancer.

The community attributable risk for sedentary living is high because there are so many people who are inactive. For example, Paffenbarger et al present community attributable risks for sedentary living in two articles based on a study of Harvard male alumni.[28,30] In the Harvard alumni population, approximately 61 percent of the men expend less than 2000 kilocalories a week in leisure-time exercise. These men have about a 36 percent greater risk of having a first heart attack when compared to their more active peers. The community attributable risk

calculation considers these facts and estimates that 23 percent of all first heart attacks would have been prevented in this population if all men were physically active.[28] Similar calculations by Paffenbarger et al indicate that 16 percent of all mortality would have been prevented if sedentary habits were eliminated from the population.[30]

To put these numbers in perspective, community attributable risk of first heart attacks were 13 percent and 10 percent for cigarette smoking and hypertension, respectively. Thus, eliminating sedentary living would prevent more heart attacks in the Harvard Alumni than eliminating cigarette smoking.

It can be argued that the community attributable risk of sedentary living is relatively high and elimination (or at least a reduction) of this risk factor has important economic implications for society. Heart attacks are expensive to the individual, employers, and society as a whole. Cardiovascular disease accounts for $72.1 billion in medical care costs and lost productivity each year in the United States. A reduction in heart attack rates has the potential to save American business a great deal of money and in some cases may keep families from needing public assistance.

BENEFITS OF WORKSITE EXERCISE PROGRAMS

The impact of exercise programs conducted at the worksite has been scientifically studied for at least the past 18 years. Research has focused on the ways in which exercise affects fitness, other physiological indicators of health (e.g., smoking, blood lipids, psychosocial factors), job performance and satisfaction, absenteeism and turnover, and medical and health care costs. This section summarizes the research evidence that demonstrates the value of exercise programs for business and industry.

Several recent reviews of the effects of worksite exercise programs have appeared in professional publications. Some of these reviews focus on programmatic issues and general results (cf.18,21,24,31), while others specifically address absenteeism or productivity[15,23] and medical and health care costs.[34,35] This review is designed to summarize the effects of exercise on all major indicators of success, including fitness, health risks, job performance, absenteeism, and health costs. Attempts at analyzing the cost-benefit effects of worksite exercise programs have been made by a few researchers, and these also are included in this review.

Anyone even remotely familiar with the field of worksite health promotion is almost certain to see articles describing the success of one program or another in a variety of general lay or specialty magazines, newsletters, or similar publications. Much of what appears in these articles, though often labeled scientific research, would not withstand the test of peer review required for publication in respected scientific journals or books, or for presentation at major scientific conferences. There is nothing wrong with publishing articles describing successful (or unsuccessful) programs, but unsubstantiated findings should not be in-

cluded in reviews of program efficacy. For this reason, the present review focuses on only those programs that have presented data through pre-reviewed channels.

Table 1 provides a summary of the research findings on exercise programs for the 17 worksites for which there exists adequately documented data. In several cases, more than one paper describing research at a given worksite is available. The employee populations at the 17 worksites range in size from about 1,500 at the Hurst-Euless-Bedford (H-E-B) Independent School District in Texas to tens of thousands of employees and spouses at several Control Data locations. Sample sizes for the various research studies conducted at these worksites were generally a fraction of the total employed population.

Table 1
SUMMARY OF RESEARCH FINDINGS
ON WORKSITE EXERCISE PROGRAMS

		DOCUMENTED BENEFITS					
WORKSITE	REF #	FITNESS	HEALTH RISKS	JOB PERF.	ABSENT-EEISM	HEALTH COSTS	CBA
AT&T	38	0/+	+	+		+	+
BLUE CROSS (IN)	20					+	+
CANADIAN LIFE	13,36	+		0	+	+	
CONTROL DATA	27	+	+				
DALLAS ISD	10	+	+	+	+		
EXXON	43	+	+				
H-E-B ISD	33				+	+	+
JOHNSON & JOHNSON	9	+	0/+				
KIMBERLY-CLARK	37	+	+		+		
LA CITY FIRE	2	+	+		+		
LA COUNTY FIRE	12	+	+		+		
MOBIL OIL	22	+	+				
NASA	16	+	0/+	0/+			
NY STATE ED DEPT	5	+	+		+		
PRUDENTIAL	11	+	0/+		+	+	+
TENNECO	3,4			0/+	0/+	0/+	
XEROX	32	+	+				

DEFINITIONS OF TERMS

Fitness	aerobic capacity, physical work capacity, exercise habits and patterns, strength, flexibility, body composition
Health risks	smoking, blood pressure, blood lipids, psychological factors
Job Performance	productivity, attitudes, satisfaction, commitment
Absenteeism	disability and sick leave, turnover
Health costs	medical and health care costs
CBA	cost-benefit analysis

RATING KEY:

+	= BENEFICIAL EFFECT OF EXERCISE PROGRAM
0	= NEUTRAL OR MINIMAL EFFECT
0/+	= MIXED FINDINGS
BLANK	= NO DATA REPORTED

In general, the research results support the notion that worksite exercise programs improve fitness and help reduce other health risks. The findings consistently show improvements in aerobic capacity and exercise habits, as well as in other fitness-related measures. In most cases, health risk factors, such as smoking, and elevated blood lipids, also respon to the worksite programs. The impact of these programs on job performance, including productivity and job-related attitudes, is less well established. As in cross-sectional studies of exercise habits and job performance (e.g., 6), the productivity results are weak or nonexistent. This is most likely due to the difficulty in finding valid and reliable techniques for measuring productivity. Findings on job-related attitudes are a bit more supportive of an exercise benefit. [13]

Impact of Exercise on Absenteeism

Especially important to employers is the increase in studies directed at identifying the relationship between worksite exercise programs and "bottom-line" variables, such as absenteeism and medical care costs. The results from the few programs that measured these variables show mostly favorable effects.

- Among Canadian Life employees,[13] modest differences in absenteeism were shown between intervention and control employees. However, "high adherent" participants experienced an almost 50 percent drop in average absenteeism relative to the year prior to the fitness program.
- At the New York State Education Department, a net reduction of 4.7 hours of sick leave per employee per year was shown for all participants.[5]
- At Prudential, a 20.1 percent reduction in average disability days was seen for one group of program participants.[11]

- At Tenneco, there was a trend for exercisers to have fewer sick hours than nonexercisers, although this difference was statistically significant only for female employees.[3]
- At both the Dallas and H-E-B Independent School Districts, reductions in absences of 1.25 days per year and 0.43 days per year, respectively, were seen for program participants relative to control group participants.[10,33] Given the added burden of substitute teachers costs that must be borne by school districts, these absenteeism reductions yielded actual savings of $149,578 for the Dallas district and $4,127 for the H-E-B district.

Impact of Exercise on Medical and Health Care Costs

Direct medical and health care cost savings also have been documented in several studies of worksite exercise programs. Most studies report the short-term (one to two year) effects of the worksite program on medical care costs.

- For example, in the Canadian Life program, Shephard and colleagues[36] showed that the total cost for medical care increased by 35 percent in a control company but only by one percent at Canadian Life. High-adherent participants at Canadian Life actually showed a five percent reduction in their medical care costs from the year before to the year following introduction of the program.
- At Prudential, Bowne and colleagues[11] demonstrated a 45.7 percent ($262.15) reduction in average major medical costs from the pre-entry to the post-entry year for one group of program participants. The higher the level of fitness achieved during the program, the lower the post-entry medical care costs.
- Similarly, Baun and colleagues[3] report a 48.2 percent ($553) difference between exercisers and nonexercisers at Tenneco. (As with the absenteeism findings, the Tenneco

data are treated in the table as mixed findings because rigorous statistical control procedures were not employed by the researchers.)

- And, Rogers and colleagues[33] report an average $253.42 reduction in medical care costs for the comprehensive program participants at the H-E-B Independent School Districts relative to the same period during the year prior to program introduction. By comparison, teachers in the randomly assigned control group averaged a $6.62 increase in medical care costs during the experimental period.

Two long-term medical care studies extend the findings of the short-term programs.

- The Los Angeles County Firefighters showed a 45 percent reduction in workers' compensation costs per $100 of payroll during the first 10 years of their program.[12] Compensation costs, especially those for back injuries, were substantially lower for those firefighters who were most flexible versus those least flexible, those strongest versus those weakest, and those who had the highest physical work capacity versus those who had the lowest physical work capacity.
- At Blue Cross and Blue Shield of Indiana,[20] long-term (4.75 year) differences in discounted average medical care costs were $519.09 between one cohort of program participants and a nonparticipant employee control group. For every $1.00 in medical care costs spent on participating employees, $1.73 was spent on nonparticipating employees.

Cost Benefit of Worksite Exercise Programs

Worksite exercise programs are not free; so, in an attempt to factor in the costs associated with conducting these programs, several researchers have published cost-benefit analyses.

- At Prudential, a facility-based program that includes physical examinations, laboratory testing, exercise classes and instruction, educational seminars, and periodic rescreening, Bowne et al[11] estimate a 2.93 benefit-to-cost ratio for program participants, not including the costs of laboratory tests and medical examinations or capital investment in equipment. If these costs are included, then the benefit-to-cost ratio is 1.91. Thus, for every $1.00 spent on the programs, Prudential realized a $1.91 savings in short-term disability and medical care costs.
- At the H-E-B Independent School District, in a program that used the existing facilities and resources of the school district, the benefit-to-cost ratio for program participants during the experimental period was 1.41.[33]
- In the Blue Cross and Blue Shield of Indiana program, the benefit-to-cost ratio for the entire five years of the program was 1.45.[20]

Effects of Exercise, Independent of Other Programs

Since so many exercise programs are part of a more comprehensive worksite health promotion effort, extra care must be taken to show the specific effects of the exercise component independent of other health promotion efforts. This is especially important when looking at job performance, absenteeism and medical care costs, all of which could be affected by simply being identified as a program participant (the so-called "Hawthorne Effect"). One way to isolate the effects of an exercise component is to stratify the participants into differing levels of post-program fitness or adherence to the exercise program and then determine whether there is a "dose-response" relationship between the level of fitness or adherence and the outcome measures. Stratification or other statistical control techniques were employed by several researchers and generally supports the findings of unique effects of exercise on absenteeism and medical care costs.[10-13,36]

- Blair and colleagues[10] show that improvement in treadmill time (an indicator of physical fitness) was significantly related to a reduction in absenteeism among program participants, even after controlling for the effects of other variables, such as age, sex, and prior-year absenteeism.

Effects of Participation on Study Results

Program participation is another important issue that must be considered when evaluating results of these studies. In some cases, participation was limited to volunteers or regular attendees of company-owned facilities (e.g., 3,4,32). In other cases, data were based on the entire employed population, including program non-participants or "non-respondents" to data collection procedures (e.g., 9,13,36). The self-selection of program volunteers makes interpretation of the results of most of the studies quite difficult. Indeed, in the cases of Exxon and Tenneco, the researchers themselves report the fact that the results documenting beneficial effects for exercisers over nonexercisers are more due to predisposing factors among the exercisers rather than program intervention.[3,43] A far better way to determine program efficacy is to study a large enough employee sample and analyze the results for nonparticipants and program "dropouts."

In summary, the results of these peer-reviewed studies of exercise programs at the worksite support the contention that such endeavors are beneficial for the employees who participate and for the organizations sponsoring the programs. From a scientific standpoint, more attention needs to be paid to the design of adequately controlled and conducted studies. From the point of view of the "consumer," the only question is how much more persuasive do the cost-benefit data need to be before the decision to start a program is made and benefits for the organization begin to be realized.

LEGISLATION AND OTHER INCENTIVES SUPPORTING PHYSICAL FITNESS PROGRAMS

In addition to the incentive of cost management through physical fitness programs at the worksite, there also is legislation supporting such programs. On the national level, the Tax Reform Act of 1984 (P.L. 98-369) allows companies to omit the value of any on-site athletic facilities from their gross income.[40] The term "on-site athletic facility" refers to any gym or athletic facility that (1) is located on the premises of the employer, (2) is operated by the employer, and (3) is used substantially by employees of the employer, their spouses, and their dependent children.

In the public sector, federal agencies currently have the authority to initiate programs that promote and maintain physical and mental health of federal employees. However, a United States Office of Personnel Management (OPM) news release, dated April 4, 1986, states the OPM has issued new guidelines to permit federal agencies broader discretion in using appropriated funds to initiate or expand exercise and fitness facilities. Specifically, OPM Director Constance Horner wants federal department and agency heads to consider exercise and education about these activities as key components of the Federal Employee's Health and Fitness Programs.

Similar to these federal guidelines, legislation in the state of Texas also is supportive of worksite fitness activities. The State Employees Health Fitness and Education Act of 1983 (H.B. 2196) allows Texas state agencies, institutions, and commissions to: (1) use state funds to develop their own employee health and fitness programs, (2) use available facilities for health and fitness programs, and (3) enter into agreement with other state, local, or federal institutions to participate jointly in health

and fitness education or fitness activity programs for its administrators and employees.[39] The importance of such legislation is indicated by the 19 proposals for health and fitness programs from state agencies that had been received by the Governor's Commission on Physical Fitness by October of 1985.[26]

(Note that not all state governmental agencies were contacted regarding health and fitness legislation. Therefore, states other than Texas may also have statutes or pending legislation which supports physical fitness programs at the worksite.)

As more data are compiled that demonstrate the positive effects of physical activity, more legislation supporting these programs can be anticipated. This is indicated by the recent passage of federal legislation (S.2057) that will establish a President's Council on Health Promotion and Disease Prevention.

CURRENT ISSUES AFFECTING WORKSITE FITNESS PROGRAMS

There are many issues to consider when implementing physical fitness programs at the worksite. This section will focus on areas that can help insure the implementation of both a safe and effective program.

The Need for Pre-Exercise Screening

For the majority of adults, exercise is both safe and beneficial. However, the American College of Sports Medicine (ACSM) recommends some screening prior to the initiation of an exercise program. The screening should consist of three major components: a review of personal and family medical history, a limited physical examination, and various laboratory tests.[1] For most individuals, these assessments do not require medical personnel or medical facilities.

Following this initial screening, individuals should be classified into one of three categories:

1. Apparently Healthy Individuals - those who are apparently healthy and have no major coronary risk factors (see Table 2).
2. Individuals at Higher Risk - those who have symptoms suggestive of possible coronary disease and/or at least one major coronary risk factor.
3. Individuals With Disease - those with known cardiac, pulmonary, or metabolic disease.

TABLE 2: MAJOR CORONARY RISK FACTORS*

1. History of high blood pressure (above 145/95).
2. Elevated total cholesterol/high density lipprotein cholesterol ratio (above 5).
3. Cigarette smoking.
4. Abnormal resting ECG.
5. Family history of coronary or other atherosclerotic disease prior to age 50
6. Diabetes mellitus

TABLE 3. GUIDELINES FOR EXERCISE TESTING*

	APPARENTLY HEALTHY		HIGHER RISK			WITH DISEASE
	Below 45	45 and Above	Below 35 No Symptoms	35 and Above No Symptoms	Symptoms	Any Age
Maximal Exercise Test Recommended Prior to an Exercise Program	No	Yes	No	Yes	Yes	Yes
Physician Attendance Recommended for Maximal Testing (under 35)	No	Yes	Yes	Yes	Yes	Yes
Physician Attendance Recommended for Sub-Maximal Testing	No	No	No	Yes	Yes	Yes

*American College of Sports Medicine. "Guidelines for Exercise Testing and Prescription." 3rd Ed. Philadelphia: Lea & Febiger. 1986. (Reprinted with permission)

Based on this classification of individuals, the safety of vigorous exercise and the possible need for graded exercise testing can be determined. The ACSM provides the following recommendations.

Apparently Healthy Individuals: Apparently healthy individuals under the age of 45 can usually perform vigorous activity as long as the program progresses gradually, and the individual is taught how to be aware of unusual signs or symptoms. It is recommended that individuals at or above age 45 have an exercise test prior to starting an exercise program. For those who are already exercising regularly, a test would be appropriate at the age of 45.

Individuals at Higher Risk: Exercise testing is recommended prior to participation in vigorous exercise for higher risk individuals at or above age 35. For those under the age of 35 and those who do not have symptoms, testing may not be necessary as long as the activity progresses gradually in a non-competitive environment.

Individuals With Disease: Obviously, individuals at any age with known cardiac, pulmonary, or metabolic disease should undergo medical evaluation and exercise testing prior to participation in vigorous activity.

Table 3 (page 18) summarizes the need for exercise testing prior to participation in an exercise program, and identifies situations where physician supervision is recommended.

The Selection of Staff

The selection of qualified staff to lead fitness activities at the worksite is critical to both the success and safety of the program. The specific qualifications of leaders, however, will depend on the types of programs being offered. For example, the qualifications of an individual who is only responsible for in-

structing exercise classes with healthy individuals would be quite different from an individual who is responsible for program administration, staff supervision, and program evaluation. In general, however, individuals should have a strong educational background in a health/fitness related field, and certification in cardiopulmonary resuscitation (CPR) and first aid.

Certifications for specific job classifications are also desirable. The ACSM[1] offers five categories of certification: (1) exercise test technologist, (2) health fitness instructor, (3) exercise specialist, (4) health fitness director, and (5) exercise program director. Individuals must demonstrate mastery of specific skills and competencies for each of the certifications.

The ACSM and the Association for Fitness in Business (AFB) are excellent resources for locating qualified staff. Both provide career services for health/fitness professionals.

Liability

As with any company-sponsored program, there may be concern over liability related to fitness activities. However, as the President's Council on Physical Fitness and Sports reports in its statement on physical fitness at the worksite, "These risks should be fully protected by liability insurance or a workman's compensation plan. Any company launching a program should examine its insurance policy or compensation act carefully and obtain additional coverage if necessary" (cited in Reference 17).

In addition to maintaining adequate insurance coverage, liability risks can be greatly reduced by providing both safe and prudent exercise programs. This can be accomplished by (1) hiring well-trained health/fitness professionals to direct and lead the pro-

gram(s), (2) informing participants of the risks associated with exercise, (3) following acceptable guidelines for exercise testing and exercise prescription, and (4) maintaining a safe facility and well-maintained exercise equipment, if available.

The Need for Evaluation

Evaluations of health promotion programs are conducted for several reasons: (1) to assist with program design and development (formative evaluatiaon), (2) to consider implementation and quality assurance (process evaluation), and (3) to determine changes in participant, organizational, or economic variables (outcome evaluation). These types of evaluations are distinguished from one another by how the results are used, kinds of information collected, and the stage of program development at which the evaluation activity is conducted.

Formative and process evaluations focus on ways to improve the program. They attempt to find out what is wanted in a program (needs assessments) or what goes on within a program rather than making comparisons to other programs. Questions are asked about whether the program has been implemented as planned and whether it is making progress toward meeting the needs of the participants. These types of evaluations can sometimes use new techniques and instruments that have not been exhaustively validated and program staff may actively assist in information collection.

Outcome evaluations generally ask questions about the program's overall success in meeting its goals, its applicability to special situations or with special groups, its comparative value, and whether there are special consequences of participation in the program. In an outcome evaluation, validated techniques and instruments must always be used and an evaluator or evaluation team with specialized skills in statistics and report writing should be utilized.

Design is a critical factor in worksite evaluation studies. Randomized clinical trials are ideal but not feasible in most settings. Control or comparison groups should be obtained in evaluation studies. Another key design issue involves a clinical versus a public health perspective. The clinical approach evaluates a small group of volunteers while the public health or population approach considers the entire workforce. The authors of this paper believe that the public health approach should be more widely used.

Program personnel who have responsibilities for planning or conducting evaluations are referred to Evaluation of Health Promotion and Education Programs by Windsor et al.[42] This text provides a comprehensive review of evaluations of health promotion programs, including a discussion of cost-effectiveness and statistical analysis procedures. The quarterly journal, Corporate Commentary: A Worksite Health Evaluation Report published by the Washington Business Group on Health, also reports regularly on the results of corporate evaluations.

DESIGN OF WORKSITE PHYSICAL FITNESS PROGRAMS

While most contemporary reports of worksite physical fitness programs trace their roots to the mid 1970s when companies such as Kimberly-Clark, Johnson & Johnson, and Sentry Insurance began their large and impressive efforts, corporate history tells us that John H. Peterson, president of National Cash Register Company, instituted exercise breaks for his employees each morning and afternoon as far back as 1894.

In his day, Mr. Peterson was unique. Today, however, a growing number of companies, especially large ones, have worksite physical fitness programs. According to the 1986 National Survey of Worksite Health Promotion Programs sponsored by the Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, 21.9 percent of companies with 50 employees or more have a physical fitness program. When broken down by size, these figures become even more impressive. Over 50 percent of companies with 750 employees or more have a physical fitness program.

Table 4

Percent of Companies with Physical Fitness Programs By Company Size[44]

50 - 99 employees	14.5%
100 - 249 employees	22.7%
250 - 749 employees	32.4%
750+ employees	53.7%
All companies with 50+ employees	21.9%

In developing this paper, thirty companies were contacted by the authors for information about their physical fitness programs,

including details about their facilities, activities, target audiences, participation rates, costs to employees, and the incentives used to encourage participation (See "Company Examples"). These businesses range in size from 100 to 5,000 employees at the worksite discussed, and include a wide variety of firms. While they do not represent a random sampling, some generalizations based on their responses, as well as on the activities of other companies, may help illustrate the diversity of what is occurring today in worksite physical fitness efforts.

Facilities

Although a very small proportion of all businesses have physical fitness facilities, those that do tend to be the most active programs, and discussions of them tend to appear most often in both the professional and popular media. Reflective of this, 20 of the 30 companies discussed in this paper have physical fitness facilities.

The facilities cited herein range in size from 1,225 square feet serving 205 employees (Packaging Corporation of America), to 40,000 square feet serving 5,000 employees (Phillips Petroleum). All include some type of exercise area, usually for aerobic exercise, and exercise equipment. Many also include areas for weight training, circuit training, indoor tracks, pools, whirlpools, saunas, class space, testing/assessment areas, locker rooms, offices and other specialized features.

Activities

Among worksites, there is a great range in the kinds of activities offered from information only (distribution of materials, information about programs available in the community, informational lectures), to educational classes, to environmental supports (showers, bicycle racks, lockers), to supportive policies

(exercise on company time, flex-time for exercising), to skills training. The majority of physical fitness activities fall into the latter category.

Popular activities include: aerobic classes including low impact/slow aerobics and high level aerobics, calesthenics, weight training, stretching/flexibility, fitness competitions, healthy back programs, walking-jogging groups, yoga, karate, self-defense, recreational activities (basketball, volleyball, cross country skiing), rehabilitation (cardiac, orthopaedic), and pre and post natal exercise. A few companies have special fitness activities for older workers, youth, and parent/children classes.

Target Audience

The vast majority of all worksite physical fitness programs are open to all employees. Some companies go even further to encourage fitness by including families and retirees, often with their spouses. A few company facilities are open to the community and some allow employees to exercise with a friend. One company, Phillips Petroleum, also welcomes widows and widowers of employees.

Participation Rates

Businesses with exercise facilities are much more likely than those without to have detailed records of employee participation rates. They also appear more likely to set minimum standards for reporting participation rates, most often requiring that an employee exercise at least two or three times per week for at least 20 or 30 minutes in order to be counted as "participating." Companies without facilities are more likely to count anyone who is enrolled in a class as a "participant." A definition of each company's participation rate is included in the "Company Examples."

Cost to Employees

Most companies offering worksite physical fitness programs attempt to keep fees as low as possible. Many offer use of an on-site facility to employees at no cost. When outside consultants (such as exercise physiologists) or off-site facilities are used for classes, businesses often set fees just high enough to recover these direct costs. In addition, many businesses will subsidize employees' participation in community "Ys" or health clubs, especially if no on-site classes are available. Some offer partial reimbursement for costs after employees complete an outside class or based on a predetermined attendance rate. Companies have found that, in addition to improving employee fitness levels, on-site programs or facilities offered free or at a low cost also are viewed by employees as an added benefit and are seen as a useful recruitment-retention tool.

Incentives

There appears to be no consistant pattern related to the use of incentives to encourage participation in physical fitness activites. Several companies with on-site facilities detailed in this paper offer no incentives, believing that the availability (often with low or no cost) is a significant incentive in and of itself. A few companies also allow employees to exercise on company time. At the other end of the scale, some offer large cash incentives or prizes to employees--and often families--who engage in regular aerobic exercise. As with most other types of health promotion efforts, T-shirts are the most popular incentive given for meeting specific goals, attending classes, or signing up for a new program.

Detailed discussions of 30 worksite fitness programs are contained in this paper's chapter "Company Examples--Worksite Physical Fitness Programs."

FUTURE DIRECTIONS

In the late 1960s, there was a tremendous increase in the number of American adults participating in regular aerobic exercise. As with the initiation of any new idea or concept, the early adopters were from the middle to upper socioeconomic class, primarily business executives and professionals. As these company executives started exercising regularly and experiencing the positive benefits, they began to encourage others to participate as well. It is believed that the initial worksite physical fitness programs were implemented as a result of those "pro exercise" company leaders.

The initial programs concentrated almost exclusively on exercise and physical fitness and were most popular in large companies that could afford to build on-site fitness facilities. These early programs were often only offered to the top executives. As the public's interest in physical fitness blossomed, as more scientific information became available that demonstrated the relationship between a positive lifestyle and health, and as the cost of medical care for employees continued to increase, company leaders saw the need to involve all employees in physical fitness programs.

Today, companies of all sizes are offering fitness programs to their employees. Programs range from multi-million dollar on-site fitness facilities to group exercise classes in the cafeteria after work. Most programs are offered to all employees, with many even providing programs for dependents and retirees. In most companies today, physical fitness is only one component of a more comprehensive "health promotion" program.

The future for worksite physical fitness programs is very promising. It is believed that more and more companies of all sizes will implement worksite health promotion programs.

Programs will continue to be comprehensive in nature, with offerings in exercise, nutrition, weight control, smoking cessation, stress management, women's health, home/auto safety, and many other areas.

In the area of exercise, aerobic "dance" classes offered at the worksite will continue to be tailored to suit the needs of specific groups such as retirees, pre and post natal women, obese individuals, and young dependents. Child care services will increase substantially in order to maintain the "convenient" aspect of worksite programs.

More individuals will participate in several types of aerobic exercise. For example, the "hard-core" jogger will begin to incorporate swimming and/or cycling into his/her exercise regimen. This is a positive trend in that cross-training can combat boredom, and the risk of "overuse" injuries, both of which are often associated with repetitive programs.

Recreational activities will remain very prevalent. These programs help to maintain a social atmosphere at work and allow employees to have fun together. The workplace then becomes more than "just a place to work."

For many individuals, exercise will remain an activity that they prefer to do away from the worksite. Therefore, there will be a tremendous increase in the provision of "self-help" programs. Kits and home videos that provide the individual with step-by-step guidelines on how to initiate and maintain an exercise program on his/her own. For example, how to start a walking or jogging program, and exercising tips for the traveler.

It also is believed that the construction of on-site fitness facilities will decline, and companies will attempt to make better use of existing facilities and community resources (e.g., local

Ys, health clubs, hospitals). With medical care cost management in mind, the goal for future programs will be to reach all employees, initiate positive behavior changes, and create a worksite environment that supports positive lifestyles among the employees.

COMPANY EXAMPLES--WORKSITE PHYSICAL FITNESS PROGRAMS

The information provided in this chapter was obtained through telephone interviews. The companies presented are intended to serve as a representative sample of worksite fitness programs. An attempt was made to contact companies of various sizes, types, and geographic locations. Open-ended questions were asked about physical fitness activities offered at the worksite. Facilities, target audience, participation levels, costs to the company and the employee, and use of incentives also were addressed.

These Company Examples provide only a general overview of the physical fitness component of the program at each worksite. In all of these companies, the same department or an allied unit also is responsible for one or more other health promotion activities such as weight loss, nutrition, stress management, smoking cessation, etc. Some details about the overall health promotion program, often including information about other lifestyle-related activities and program results, are provided for 10 of the example companies. These 10 were selected by the authors to show the diverse contexts in which worksite physical fitness programs are taking place and to illustrate the range of benefits accruing to companies as a result of their involvement in health promotion activities.

Programs With Facilities at the Worksite

AT&T, Basking Ridge, NJ
Tom Consol, Health Fitness Associate
(201)221-2437

"Total Life Concept" (TLC), 3,500 employees at worksite.
Facility--3,500 sq. ft. fitness facility with 1,600 sq.ft. of exercise space plus locker rooms, offices, 18 station Parcourse, running trails, adjacent classrooms.
Activities--Aerobic dance, developmental running program, healthy back, cardiovascular exercise, strength and endurance training, orthopedic and cardiac rehabilitation.
Target Audience--All employees.
Participation Rate--50 to 60 percent participate a minimum of six to eight times per month.
Cost to Employee--Fee for aerobic dance and developmental running; all others at no cost.
Incentives--T-shirts, duffle bags, visors, etc. "Introductory" TLC participants allowed to exercise one hour on company time, three times per week for 12 weeks; subsequent exercise on individual's time, with minimum attendance requirements.
Overall Health Promotion Programming--A variety of physical fitness activities are offered as part of this comprehensive health promotion program. Also included are lifestyle change programs in interpersonal communications, stress management, smoking cessation, weight control, hypertension control, healthy back, cholesterol control and cancer screening. As an indicator of environmental support for the program, "healthy" breaks are offered during regular meetings or seminars at AT&T. These 15-minute presentations on a variety of health promotion topics are scheduled on the meeting agenda. "Healthy" snack alternatives, such as bran muffins and fruit platters, also are offered in place of traditional items. Program participants are divided into four program categories: executive, cardiac or orthopedic rehabilitation, high risk, and the Total Life Concept program. Approximately 600 individuals are invited to enroll in the Total Life Concept program every three months. The Total Life Concept program, which is offered on company time, involves approximately 40 percent of the employees presently at this cite. An assessment process evaluates one's health status prior to entry into the program. Decreased incidence of heart disease, stroke and cancer have been predicted through an analysis of significant health risk variable, based on pre and post questionnaires and biometric measures.

Baptist Hospital, Nashville, TN
David Evans, M.A., A.T.C, Director, Health and Fitness Center
(615)329-5066

2,000 employees at worksite.
Facility--29,000 sq. ft., including weight room, overhead indoor track, 25 meter pool, multi-purpose gym, whirlpool/massage area. Also associated with the facility are a heart center for cardiac rehabilitation, a sports medicine clinic for athletic rehabilitation, and a center for health promotion.

Activities--Fitness assessments including treadmill, individual exercise prescriptions, aerobic classes, prenatal and post partum exercise, senior citizen program, weight training, volleyball and basketball, cardiac rehabilitation, strength and flexibility.
Target Audience--All employees and the public.
Participation Rate--20 percent of employees are members.
Cost to Employees--Fee discounted for employees.
Incentives--T-shirts, aerobic points, mileage clubs, members who exercise three time per week for a year get reduction in following year's membership fee.

Campbell Soup, Camden, NJ
Kerry Bouchard, Assistant Manager, Fitness Center
(609)342-3939

3,000 employees at worksite.
Facility--10,000 sq. ft., including multi-purpose exercise/class room, indoor track, equipment/exercise room, locker rooms, laundry, conference room, reception area, offices.
Activities--Aerobic clases, strength training, self defense, racquetball leagues, running and biking clubs, flexercise, slow aerobics, bunnetics (hips and thighs), TNT (tummy and toning), newsletter. Testing required before using facility.
Target Audience--All employees plus one spouse or family member over 18. Retirees and spouses also eligible.
Participation Rate--55 percent signed up. 53 percent of those signed up exercise at least two times per week.
Cost to Employees--Company pays 50 to 100 percent of fee for employees based on participation levels. Yearly fee for spouses.
Incentives--"Team 100, 300, 500" (awards based on number times exercised), special promotions such as the "Press Club" and the "50 State Shuffle," department competitions, aerobucs, clothing and equipment awards, monthly awards luncheon for those who reach goals. Flex-time for use of facility.

Chase Manhattan Bank, New York, NY
Meri Hannon, Vice President
(212)552-7993

25,000 employees at worksite.
Facility--3,500 sq. ft. including testing area, lounge for counseling, exercise floor, offices, locker rooms, library.
Activities--All exercise program individualized, workout information, program coordinated with medical department. Active cardiac rehabilitation program.
Target Audience--1,100 executives and high risk employees.
Participation Rate--60 percent of eligible executives exercise two to 2.5 times per week. 300 on waiting list for membership.
Cost to Employee--No cost.
Incentives--Certificates for 10 years of participation.

Conoco Inc., Houston, TX
Bob Ealing, Manager, Health and Fitness
(713)293-1000

2,100 employees at worksite.

Facility--13,000 sq. ft. including locker rooms, exercise equipment room, group exercise room ("The Energy Shop"), classroom/small group exercise room, plus 1.5 mile outdoor track.
Activities--Low impact aerobics, high level calesthenics for strength and flexibility ("Sweat Shop"), pre and post natal exercise, "Fitness Challenge," "Five Pound Challenge" (weight loss).
Target Audience--All Houston-based permanent employees and visiting employees.
Participation Rate--65 percent signed up to use facility; 42 percent use at least six times per month.
Cost to Employee--No cost.
Incentives--Participation club (T-shirts), attendance incentives (exercise bags), flex-time for use of facility with manager's approval, lockers and laundry service for regular users (six or more times per month); special promotions.

Forbes Magazine, New York, NY
Kip Cleland, Director, Health and Fitness
(212)620-2253

Facility--A new penthouse facility, ready January 1, 1987, will have 3,300 sq. ft., including multi-purpose area for exercise and educational classes, free weight area, locker rooms, offices.
Activities--Aerobic exercise, yoga, stretching, calesthenics.
Target Audience--All employees.
Participation Rate--30 to 35 percent use facility two or more times per week.
Cost to Employee--No cost.
Incentives--Exercise one hour, three times per week, on company time. T-shirts, lotteries, prizes. Opportunity for "active and healthy lifestyle."

Frito Lay, Inc., Dallas, TX
John Rath, Manager, Employee Fitness Program
(214)351-7000

Facility--11,000 sq. ft. including strength training area, flexibility/stretching area, aerobics/karate area, medical rehabilitation area, locker rooms, offices.
Activities--Exercise equipment, jogging paths, aerobic classes (three levels), karate classes, athletic events, treatment for minor exercise injuries, special programs delivered to individual departments.
Target Audience--All employees.
Participation Rate--40 percent sign up for exercise programs and/or attend education classes one or more times per week.

Cost to Employees--No charge for use of exercise area; fee for skills-related classes.
Incentives--No incentives beyond availability of facility.

Georgia-Pacific, Atlanta, GA
Janet Edmunson, Health Club Manager
(404)521-5253

1,400 employees at facility
Facility--13,000 sq. ft. including aerobics area, weight training area, racquetball court, lockers with whirlpool and sauna, outdoor track.
Activities--Exercise testing and prescription, aerobic classes (three levels), low-impact aerobics, power fitness class, sports tournaments, jogging and tennis clubs, recreational trips.
Target Audience--All employees.
Participation Rate--50 percent are members; 30 percent exercise two times per week or more.
Cost to Employees--Initiation and monthly fees.
Incentives--First two months free to new employees, T-shirts, prize drawings for participation, special promotions, such as exercise eight times during month and win T-shirt.

Home Box Office, New York, NY
Bill Boyle, Manager, Fitness Center
(212)512-1000

1,000 employees at worksite.
Facility--3,000 sq. ft. including circuit training area, reception area, multi-purpose exercise/recreation area (squash/basketball courts), locker rooms, laundry, offices.
Activities--Exercise prescription, low back program, weight training, aerobic classes, self defense, calesthenics, aerobic dance, outdoor running.
Target Audience--All employees over 30 and those at high risk. All employees can use squash courts.
Participation Rate--Of 500 eligible employees 40 percent exercise two times or more per week.
Cost to Employees--$5 per paycheck through payroll deduction, or about $130 per year.
Incentives--Special events such as contests, trips, etc.

McKee Baking Company, Collegedale, TN
Kelly Wygal, Employee Health, Wellness and Fitness Coordinator
(615)238-7111

1,800 employees at worksite.
Facility--35,000 sq. ft. including gym, aerobics room, kitchen for healthy cooking classes, free weight room, circuit weight room, 25-meter indoor lap pool, 25-meter outdoor pool, two

saunas, two steam rooms, jacuzzi, exercise perscription and testing room, babysitting room, two racquetball courts.
Activities--Exercise assessment and prescription, three levels of aerobic classes (low impact, intermediate, advanced), healthy back class, team sports, pre and post natal exercise.
Target Audience--All employees and families.
Participation Rate--50 percent use facility two or more times per week; an additional 10 percent exercise three times per week outside.
Cost to Employee--Small weekly fee for using facility, totaling about $100 per year for an individual; pay 10 percent of cost of education classes; fee for visitors.
Incentives--Activity points; additional free life insurance if adhere to specific lifestyle habits; wave deductible for health insurance if adhere to specific lifestyle habits; cash bonuses.
Overall Health Promotion Programming--This health promotion program is offered to all employees and their families. Guests/visitors pay a fee to use the facilities. In addition to the physical fitness activities, the program addresses topics such as healthy cooking, stress management, weight control, nutrition, smoking cessation, back problems, and blood pressure control. Over 70 percent of the employees completed a Health Risk Appraisal with biometric measurements as part of the program. Exercise assessments and prescriptions were also provided. As an incentive for participation, life insurance benefits are increased, health insurance deductibles are waived, and cash bonuses can be earned. Employees share a small portion of the cost of the activities.

Kimberly-Clark, Neenah, WI
Patrick Lord, Supervisor of Fitness Programs
(414)721-5559

"Health Management Program," 5,000 employees at worksite.
Facility--Multi-purpose exercise/class room, weight room, pool, whirlpool, sauna, outdoor track.
Activities--Aerobic classes, weight training, aerobic conditioning, starter fitness, water classes. Screening, including stress test, required before participation.
Target Audience--All employees and retirees; spouses included.
Participation Rate--25 percent use facility two or more times per week.
Cost to Employee--Free to all employees and retirees; spouses pay for exam and screening, classes free.
Incentives--Motivational board lists names and levels of participation (gold, silver, bronze) and highlights "Wellness Winners." Seasonal and special promotions.

Mobil, New York, NY
Russell Fleischman, Supervisor of Medical Fitness Programs
(212)883-5054

2,000 employees at worksite.
Facility--4,000 sq. ft. Medical Fitness Center (exercise area), small stretching class area, locker rooms with showers, laundry.
Activities--Medically oriented facility, stretching and abdominal strength classes, individualized programs. Treadmill, exercise tolerance and other tests required for participation. Cardiac rehabilitation program.
Target Audience--Executives.
Participation Rate--Of 600 eligible executives, 50 percent are active, registered participants.
Cost to Employee--No cost.
Incentives--Open all day at worksite, participation on company time.

Northern Telecom, Inc., Nashville, TN
Stuart Goldstein, Manager of Health Services
(615)734-4056

580 employees at worksite.
Facility--3,200 sq. ft. including aerobic exercise and class room, circuit training room, locker rooms.
Activities--Health check for pre-placement, two year follow-up, exercise equipment, aerobic exercise (various levels), yoga, karate, rowing and walking clubs, toning and stretching.
Target Audience--All employees; families (18 and over, accompanied by employee) during "off hours."
Participation Rate--30 to 35 percent use facility three or more times per week; 27 percent enrolled in aerobic classes.
Cost to Employees--Fee of $1 per aerobic class; discount to $.75 for high participation.
Incentives--None beyond availability and low cost.
Overall Health Promotion Programming--Participants in this program complete a health check for pre-placement. Follow-up assessments are conducted every two years. In addition to aerobics exercise classes, activities are included on cancer awareness, stress management, smoking cessation, nutrition, seat belt safety, hypertension screening, medical self-care, and wise use of the health care system. All employees and their families are encouraged to use the facilities at lunch and after regular work hours. Incentives for participation include free lunches and prizes such as gym bags. Employees who stop smoking can earn cash awards.

Packaging Corporation of America, Evanston, IL
Caryn Rowe, Health and Fitness Coordinator
(312)492-6900

205 employees at worksite.
Facility--1,225 sq. ft. including aerobic class area, circuit training area, locker rooms.
Activities--Exercise equipment, aerobic classes, health screening required.
Target Audience--All employees.
Participation Rate--32 percent use facility.
Cost to Employees--No cost for facility or health screen.
Incentives--Nutri-fit Olympics (nutrition and fitness competition), points system for awards, computerized printouts of exercise and calories expended, flex-time for use of facility.
Overall Health Promotion Programming--Health screening is required for employees to use the fitness center. Aerobics classes are offered seven times per week (morning, noon, and evening). Because of the popularity of this activity, additional classes are likely to be scheduled. Flex-time scheduling is also allowed for exercising, with approval of the supervisor. Other health promotion activities include weight loss programs, CPR classes, and participation in national high blood pressure month activities. The company pays for all health screening tests for any employee. As a result of the program, more employees are exercising and weight loss has been noted. Employees earn points which can be traded for awards such as T-shirts, socks, and mugs.

Phillips Petroleum, Bartlesville, OK
Howard Heuston, Director of Physical Fitness and Athletics
(918)661-5617

5,000 employees at worksite.
Facility--40,000 sq. ft., including gym, exercise rooms, weight room, bowling lane, auditorium, locker rooms, check room, swimming pool, soccer field, softball fields and additional gymnasium building for youth gymnastics programs.
Activities--Weight training, stretch and tone, back care, prenatal exercise, walking, jogging, bicycling, swimming, recreational sports. Special classes for children of employees and community. Screening and/or physician approval required for some activities.
Target Audience--All employees, spouses and dependents; retired employees, spouses and dependents; widows and widowers of employees.
Participation Rate--80 percent participate in some form; 35 percent exercise informally at least three time per week and keep their own records.
Cost to Employees--Low yearly fee for individuals ($30) and families ($42); retirees pay reduced rates.
Incentives--Certificates, plaques for participation.
Overall Health Promotion Programming--Program activities are organized into three areas: physical fitness and recreational, lifestyle, and safety training. Some fitness programs, such as

prenatal exercise and back care, require a physician's approval for participation. Pre-screening is required for other fitness activities. Educational and motivational literature is provided to assist employees with their individual programs. Educational programs include CPR training, weight management, stress management, and smoking cessation. The program is family oriented. All current and retired employees and their dependents, as well as widows/widowers of employees are included in activities. Recreational programs are especially popular, with 80 percent having recreational memberships. The company attributes hiring and retention of quality employees to the health promotion program. Absenteeism and healthcare costs have been reduced.

Pillsbury, Minneapolis, MN
David Teschler, Director, Health Services
(612)330-5173

"Be Your Best Personal Lifestyle Program;" 2,600 employees at worksite.
Facility--6,000 sq. ft including exercise area, circuit weight area, cardiovascular exercise area, locker rooms, offices.
Activities--Aerobic classes including low impact and high level, strength training, fitness assessments, stretching and flexing, low back program, self defense, running, bicycle, walking, cross country ski, and aerobics clubs.
Target Audience--All employees.
Participation Rate--50 percent members of center; 25 percent participate two or more times per week.
Cost to Employees--$5 per month.
Incentives--Excellence programs, prizes, T-shirts, bags, sweat bands.
Overall Health Promotion Programming--All current and retired employees and their dependents may utilize the fitness facilities at this worksite. Facilities are also available to other associates within the building. A comprehensive fitness program, including pregnancy exercise classes, is offered. Other health promotion activities include stress management, time management, cancer prevention, immunizations, enrich-your-life program for persons over 55 and retirees, healthy eating plans, and smoking cessation. The company has a smoking policy and an environment which is supportive of healthy lifestyle habits. Only fees for special programs are charged to the employee. Most activities/facilities are free. The company reports that the program is an asset in recruiting new employees and maintaining high morale among employees.

Prudential, Newark, NJ
Tom Kinsman, Senior Exercise Physiologist
(201) 877-6000

3,200 employees at worksite.
Facility--3,600 sq. ft. including large exercise room, lockers, gym in separate building with basketball, volleyball, track, etc.
Activities--Circuit training, running, flexibility, toning, aerobics and low back exercise. screening and periodic evaluations required.
Target Audience--Facilities available to manager level and above. Exercise classes open to all.
Participation Rate--Of 800 eligible, 600 have participated at least once; 300 are active more than 2.5 times per week.
Cost to Employee--No cost.
Incentives--T-shirts, etc.

Sentry Insurance, Stevens Point, WI
Ronald Cook, Ph.D., Corporate Manager, Employee Wellness
(715) 346-7450

2,400 employees at worksite.
Facility--22,266 sq. ft. including gym, racquet ball courts, classroom, fitness assessment area, fitness lab classroom, fitness lab exercise area, 25 meter pool, diving well area, offices, equipment room, audio-visual area.
Activities--Aerobic exercise, toning and conditioning, swimnastics, swimming lessons, weight training, prenatal exercise, retiree exercise, parent-tot swim program, ladies only exercise.
Target Augience--All employees and dependents, retirees and spouses, and tenants within building.
Participation Rate--35 percent use aerobically at least two times per week; additional 50 percent participate in activities at least once per month.
Cost to Employee--Most activities are free. Fee for special programs.
Incentives--Awards program, T-shirts, paper weights, etc.
Overall Health Promotion Programming--All current and retired employees and their dependents may utilize the fitness facilities at this worksite. Facilities are also available to other associates within the building. A comprehensive fitness program, including pregnancy exercise classes, is offered. Other health promotion activities include stress management, time management, cancer prevention, immunizations, enrich-your-life program for persons over 55 and retirees, healthy eating plans, and smoking cessation. The company has a smoking policy and an environment that is supportive of healthy lifestyle habits. Only fees for special programs are charged to the employee. Most activities/facilities are free. The company reports that the program is an asset in recruiting new employees and maintaining high morale among employees.

United Methodist Publishing House, Nashville, TN
Dave Patterson, Manager, Health and Safety Department
(615) 749-6410

"TriuUMPH for Health," 1,000 employees at worksite.
Facility--1,700 sq. ft. including exercise area and locker rooms.
Activities--Fitness assessments, aerobic dance, recreational programs, weight training, corporate running team, educational programs. Also, medical intervention programs.
Target Audience--All employees, retirees, and family members.
Participation Rate--40 to 60 percent take part in health promotion activities; no breakout for physical fitness participation.
Cost to Employees--No Cost
Incentives--Aerobics Challenge, awards, exercise on company time, partial reimbursement if employee uses other facilities. Offers a Well-Fit-Day (a day off with pay) for participation at a predetermined level.

Programs With No Facilities at the Worksite

Blue Cross/Blue Shield of Indiana, IN
Gail Knight
(317)263-8000

"Stay Alive and Well," 2,400 employees at worksite.
Activities--Aerobic classes in cafeteria, use of university facilities, physical assessments and follow-up.
Target Audience--All employees.
Participation Rate--65 percent participate in screening.
Cost to Employees--No cost.
Incentives--T-shirts, buttons, activities performed on company time.

C.B. Fleet Co., Lynchburg, VA
Wayne Johnson
(804)528-4000

280 employees at worksite.
Activities--20 exercise classes per week conducted in cafeteria.
Target Audience--All employees and families.
Cost to Employees--Fee for classes; company pays 50 percent.

Fireman's Fund Employers Insurance Company, Depere, WI
Marty Stanley, Assistant VP for Training and Education
(414) 337-5447

1,200 employees at worksite.
Activities--Group exercise classes in cafeteria, fitness testing and prescription, educational materials, walk-job club, seminars.

Target Audience--All employees.
Participation Rate--50 percent participate in testing; 60 percent participate in at least one activity.
Cost to Employees--Small monthly fee.
Incentives--Fitness assessments and counseling on company times, points system and prizes for participation, special events.
Overall Health Promotion Programming--The "Team Health" program began with a needs assessment survey to profile the health status of the company and design a program to meet the unique needs of the worksite. The needs assessment will be repeated after one year to evaluate changes in physiological and behavioral variables. A wellness committee provides advice and direction in planning and evaluating all program activities. Because no fitness facility is available at this worksite, exercise classes are held in the cafeteria after work each day. A walk/jog club has been formed. Over 65 percent of the employees participated in a comprehensive assessment program called PALS--Personalized Aerobics Lifestyle System, which provides computer-generated profiles and prescriptions for wellness, exercise and activity, nutrition, and personal well-being. As a result of the PALS assessments, approximately 25 individuals at high risk were referred to their personal physicians.

Honeywell, Minneapolis, MN
Ben Aune, Corporate Manager, Health Promotion (612)870-2175
(612)870-2175

18,000 employees at worksite.
Activities--Running and walking clubs.
Target Audience--All employees.
Cost to Employees--Shared costs for worksite program and "Y" membership.
Incentives--T-shirts, hats, mugs, partial cost reimbusement for achieving goals.

Hubbard Milling, Mankato, MN
Dave Knutson, Personnel Manager
(507)625-1882

150 employees at worksite.
Activities--Aerobic dance, jazz exercise.
Target Audience--All employees.
Participation Rate--60 percent participate in a program.
Incentives--Company divided into four teams for competitions.

Indian Health Service, Albuquerque, NM
Michael Boyd, Chief of Tribal Health Programs
(505)766-2124

"Heart at Work," 130 employees at worksite.
Activities--Special corporate rate at health/sports club, noon walking group, jazz exercise class for women.
Target Audience--All employees.
Participation Rate--10 to 15 percent participate three or more times per week.
Cost to Employees--Fees for classes.
Incentives--Most activities on company time.
Overall Health Promotion Programming--The health promotion activities at this organization were acquired from the American Heart Association's "Heart at Work" program. No on-site fitness facilities are available. Employees have access to a sports club with complete facilities. A noon-time walking group has been formed and female employees participate in a "jazzwork" aerobics-type class at another facility. The program is voluntary and available to all employees. Educational programs on topics such as nutrition, stress management, and signs/symptoms of heart attack are scheduled at the worksite on company time, usually noon time. Employee committees have been formed to develop an incentive/awards program. A survey conducted by graduate students form a local university reported these benefits as a result of participation in the program: 80 percent of the participants felt more motivation and energy at work, 90 percent felt better about themselves, 82 percent felt they were more productive.

MSI Insurance, St. Paul, MN
Peggy Wadell, Occupational Health Nurse
(612)631-7000

675 employees at worksite.
Activities--Aerobic classes after work, informal walking group.
Target Audience--All employees.
Participation Rate--25 percent participate in health promotion program; 5 percent participate in physical fitness activities.
Cost to Employees--Shared costs for aerobic classes.
Incentives--Gift certificates, movie tickets.

Provident Indemnity Life Insurance Company, Norristown, PA
Maryann Fichter, Vice President for Human Resources
(215)279-2500

100 employees at worksite.
Activities--Aerobic classes, walking course at lunch, tone-up class for spring months.
Target Audience--All employees.
Participation Rate--97 percent participate in health promotion incentive programs; 30 percent sign up for health promotion classes; no separate records for physical fitness.

Cost to Employees--Shared cost.
Incentives--None beyond shared cost.
Overall Health Promotion Programming--This wellness program, which has no on-site fitness facility, includes components such as nutrition, weight loss, stress management, and aerobics exercise. Exercise classes are held in a conference room after work hours. Employees participate in a walking course during the lunch hour. All employees and their families may participate in the program and over 97% of the employees participate in the wellness program. The company is very pleased about the high participation and success rate and was one of the founders of a non-profit wellness program organizaiton in the state of Pennsylvania. The program, which is offered at no cost to the employee, was reported to be low cost to the employer.

Sherer Brothers Lumber Company, Minneapolis, MN
Robert Peters
(612)379-9633

260 employees at worksite.
Activities--Company sponsors bike and road races, discounts for sports and health club memberships, educational literature.
Target Audience--All employees.
Participation Rate--30 percent participate in activities.
Cost to Employees--No cost.
Incentives--Entry fees paid by company, discounts at health clubs.
Overall Health Promotion Programming--Although this company has no on-site fitness facility, it uses and supports community resources extensively. The company regularly sponsors bike and road races and participates in community health fairs. Discounts are provided to employees for sports and health club memberships. Educational materials and publications are available to employees at the worksite. All activities take place after regular work hours. A major benefit reported by the company is improved employee morale. Employees seem to enjoy seeing each other outside of the work environment.

Sherwin-Williams Paint Company, Cleveland, OH
Penny Stomp
(216)566-2596

1,000 employees at worksite.
Activities--Speakers on exercise and fitness.
Target Audience--All employees.
Cost to Employees--No cost.

Union Life Insurance Company, Little Rock, AR
Richard Cooper
(501)376-1901

"Team Health," 150 employees at worksite.
Activities--Group exercise classes meet in conference room three times per week, fitness testing and prescription, educational materials, seminars.
Target Audience--All employees.
Participation Rate--85 percent participate in testing; 10 percent participate in on-site exercise.
Cost to Employees--Small monthly fee.
Incentives--Fitness assessments on company time, points system and prizes for participation.

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RESOURCES--WORKSITE PHYSICAL FITNESS PROGRAMS

American Alliance for Health, Physical Education,
Recreation and Dance
1900 Association Drive
Reston, VA 22091
(703) 476-3400

American College of Sports Medicine
P.O. Box 1440
Indianapolis, IN 46206
(317) 637-9200

American Heart Association
7320 Greenville Avenue
Dallas, TX 75231
(214) 750-5300 (or local chapter)

Association for Fitness and Business
1312 Washington Road
Stamford, CT 06902
(203) 359-2188

Institute for Aerobics Research
12330 Preston Road
Dallas, TX 75230
(214) 239-7223

National Health Information Clearinghouse
P.O. Box 1133
Washington, D.C. 20013

Physical education department of a local university.

President's Council on Physical Fitness and Sports
Room 7103
Judiciary Plaza
450 Fifth Street, S.W.
Washington, D.C. 20001
(202) 272-3421

All About WBGH

The Washington Business Group on Health (WBGH), established in 1974, gives major employers a credible voice in the formulation of federal and state health policy. WBGH began with five companies and now works with more than 200 of the Fortune 500. WBGH members direct health care purchasing for 40 million of their employees, retirees and dependents.

In 1976, WBGH expanded to become the first national employer organization dedicated to medical care cost management. WBGH is an active participant in discussions, hearings and other aspects of the legislative and regulatory arena. It also serves as a reliable resource base providing information and expertise on a variety of health care issues and concerns as well as consulting to its members, government, other employers, health care providers, and the media.

WBGH, through its institutes and public policy division, provides long-range planning and analysis on many sensitive economic and social issues. As specific areas of need were identified, WBGH formed: the Institute on Aging, Work and Health; the Institute for Rehabilitation and Disability Management; the Institute on Organizational Health; and Family Health Programs. WBGH also publishes two magazines, *Business & Health* and *Corporate Commentary*, and other resource information, reports, studies, and surveys.

WGBH assists the business community through: the Policy Exchange telecommunications network; an annual conference to discuss new health policy issues, cost management strategies, benefit design solutions and health promotion ideas; formation of nationally recognized task forces on topics ranging from legal issues of interest to employers to tax policy; and numerous seminars on timely subjects such as AIDS and utilization data. WBGH has been instrumental in helping form over 35 local business health care coalitions across the country.